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(54) **APPARATUS FOR HANGING PLANTS**

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Related U.S. Application Data

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(51) **Int. Cl.**

F16L 3/00 (2006.01)

A47G 7/04 (2006.01)

F16M 11/28 (2006.01)

(52) **U.S. Cl.**

CPC **A47G 7/041** (2013.01); **F16M 11/28** (2013.01)

(58) **Field of Classification Search**

CPC **A47G 7/04**; **A47G 7/00**; **F16M 11/28**; **F16M 11/2057**; **F16M 11/125**; **F16M 11/046**

See application file for complete search history.

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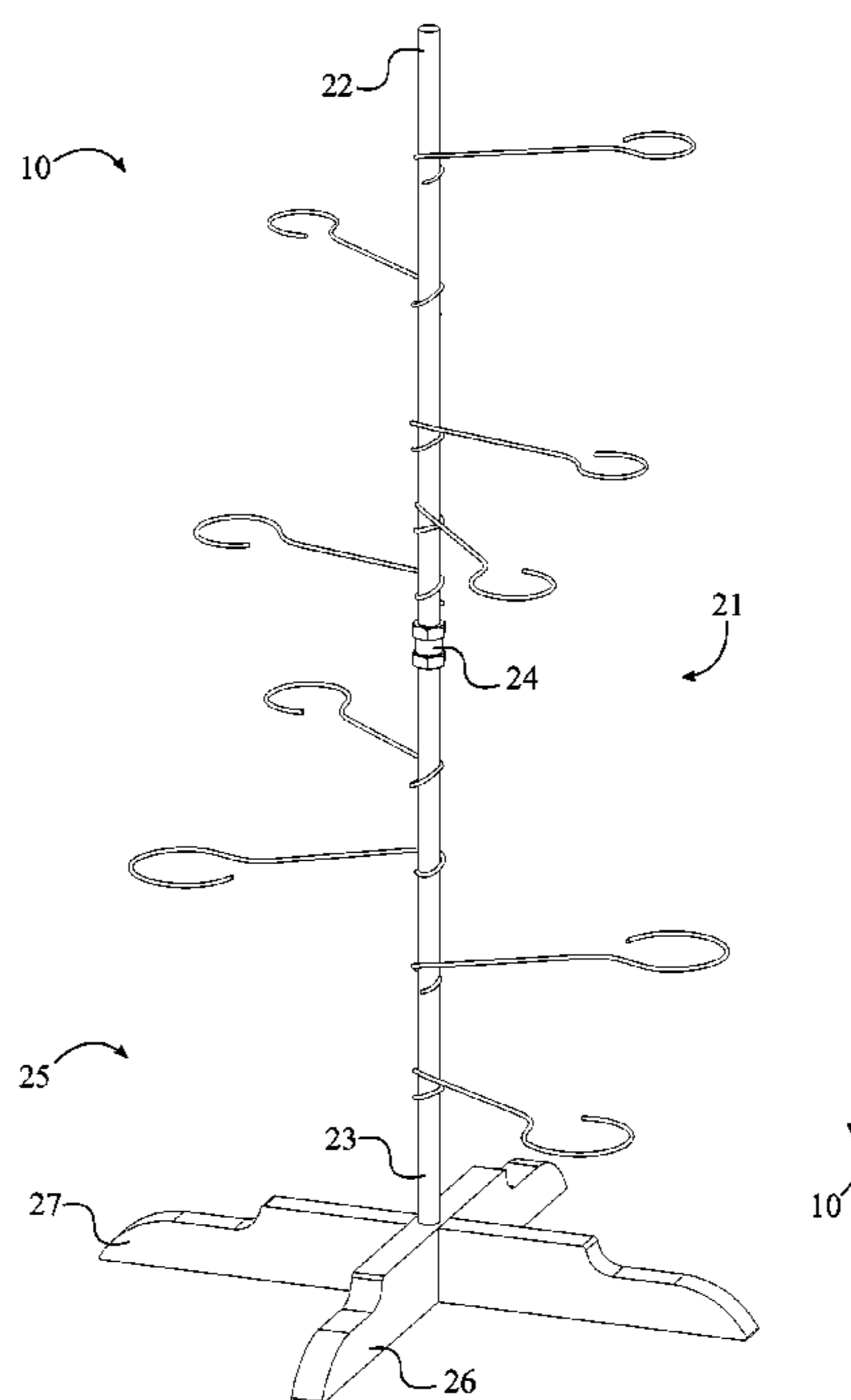
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Primary Examiner — Amy Sterling

(57) **ABSTRACT**

An apparatus for hanging plants allows a user to create 360 degree displays using potted plants. A support structure includes a support pole and a base. The base stabilizes the support pole in a position normal to the resting surface of the base. The support pole is cylindrical and can be separated into a top pole and a bottom pole for ease of storage and transportation. Similarly, the base can be separated into a top support leg and a bottom support leg. At least one plant hanger is positioned around the support pole by an attachment portion. A support arm portion of the plant hanger extends away from the support pole, while a receiving portion provides means for supporting a potted plant. The support pole can be alternatively supported using an at least one support pole mount that suspends the support pole off of the ground.

5 Claims, 12 Drawing Sheets



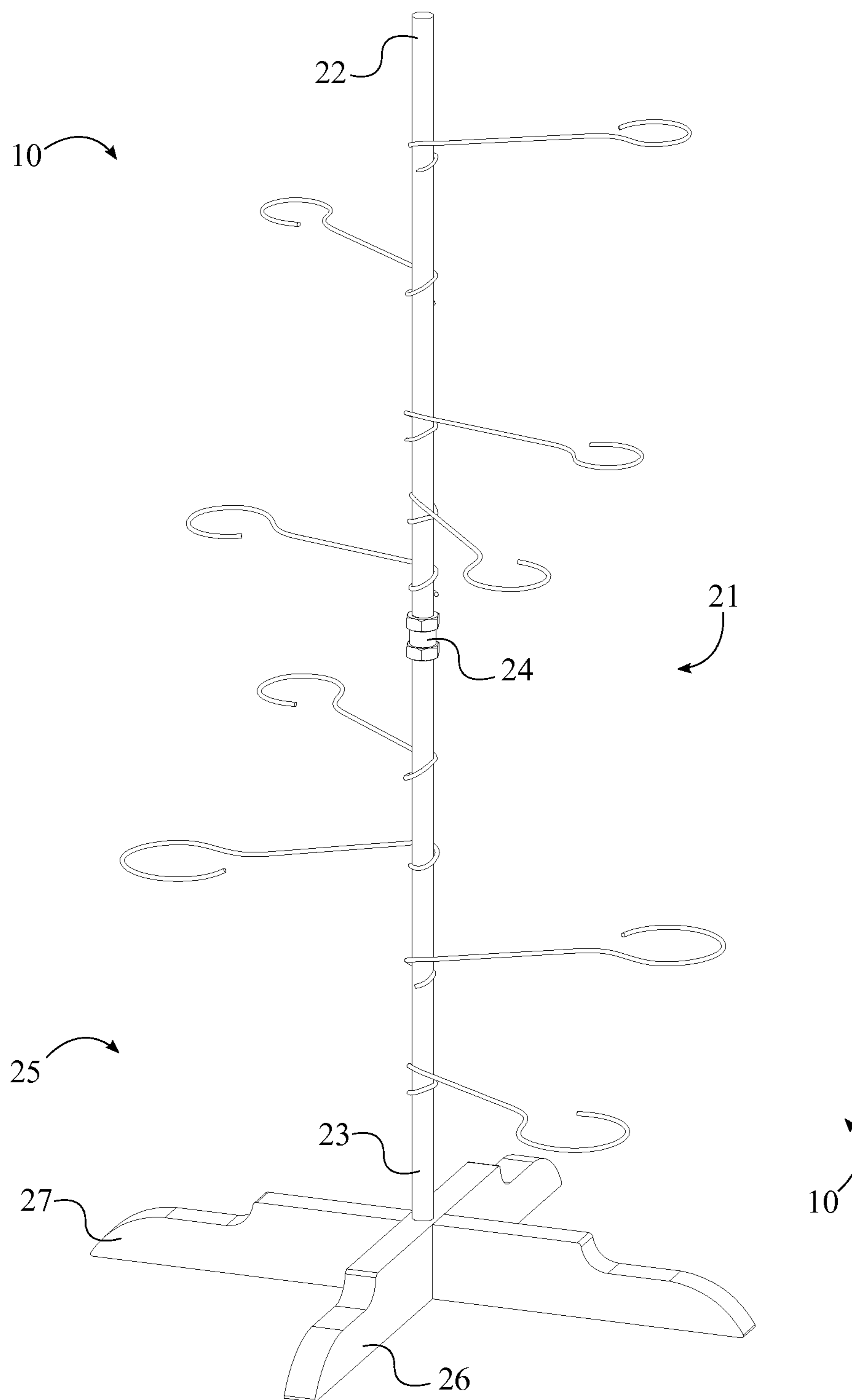


FIG. 1

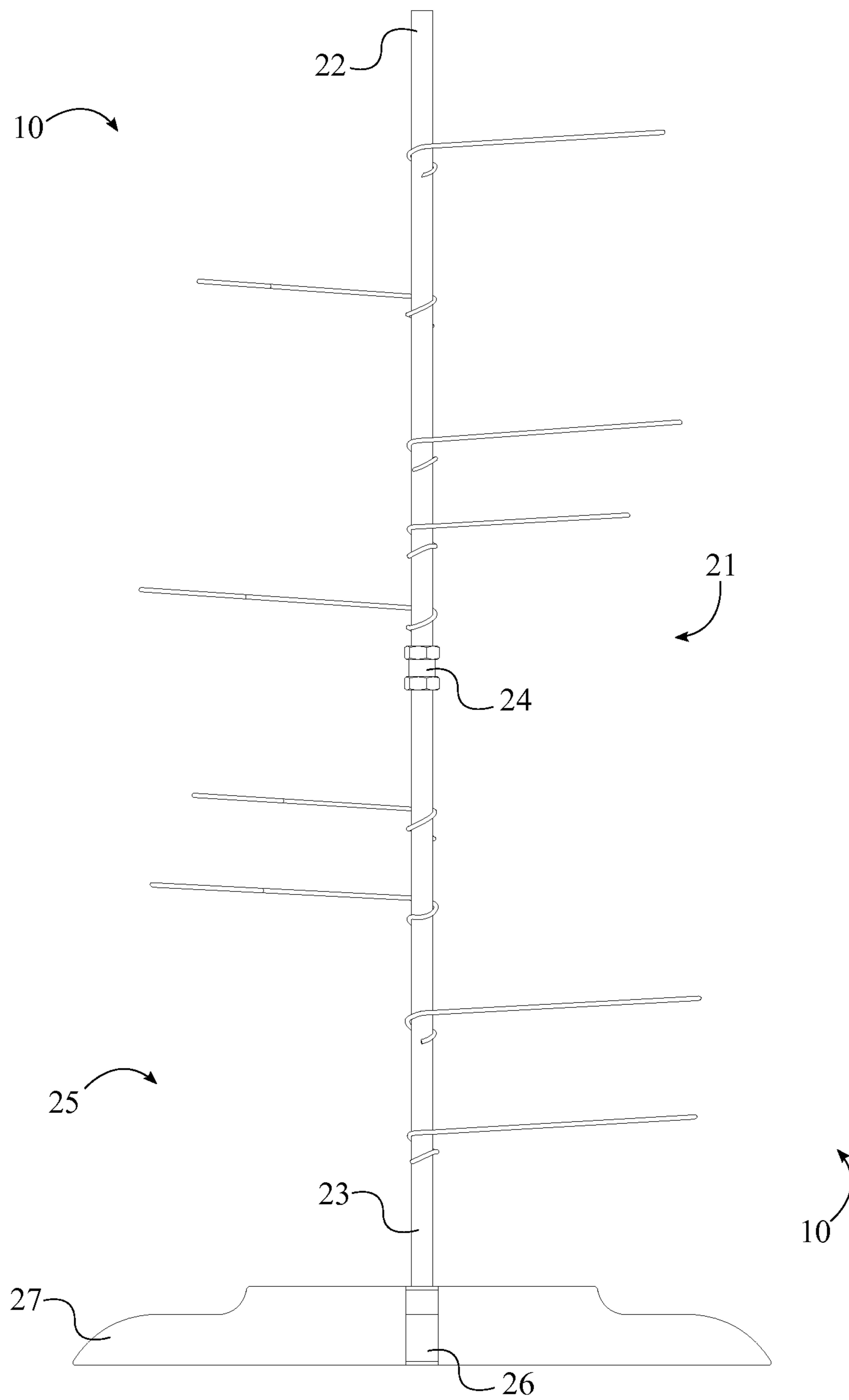


FIG. 2

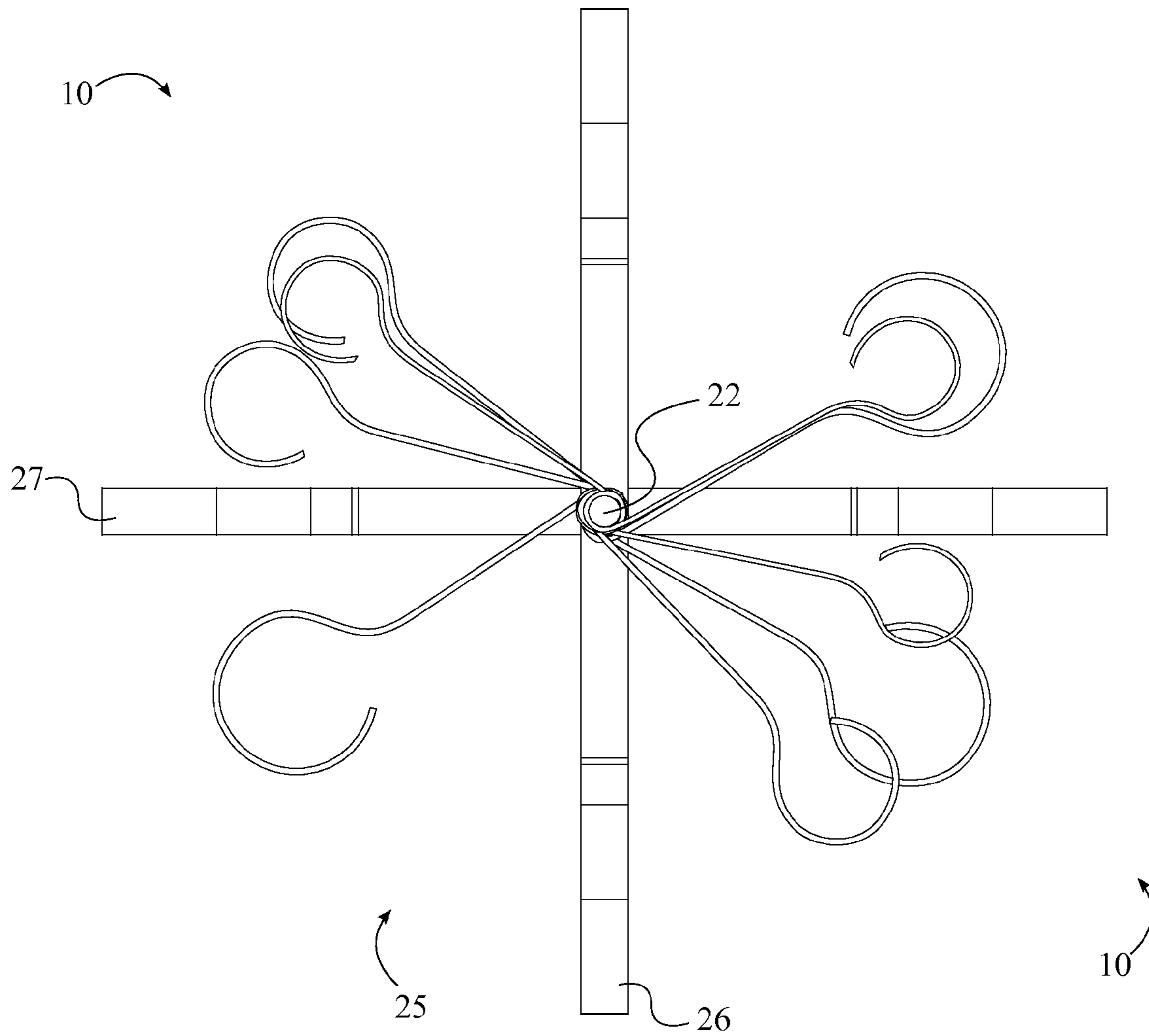


FIG. 3

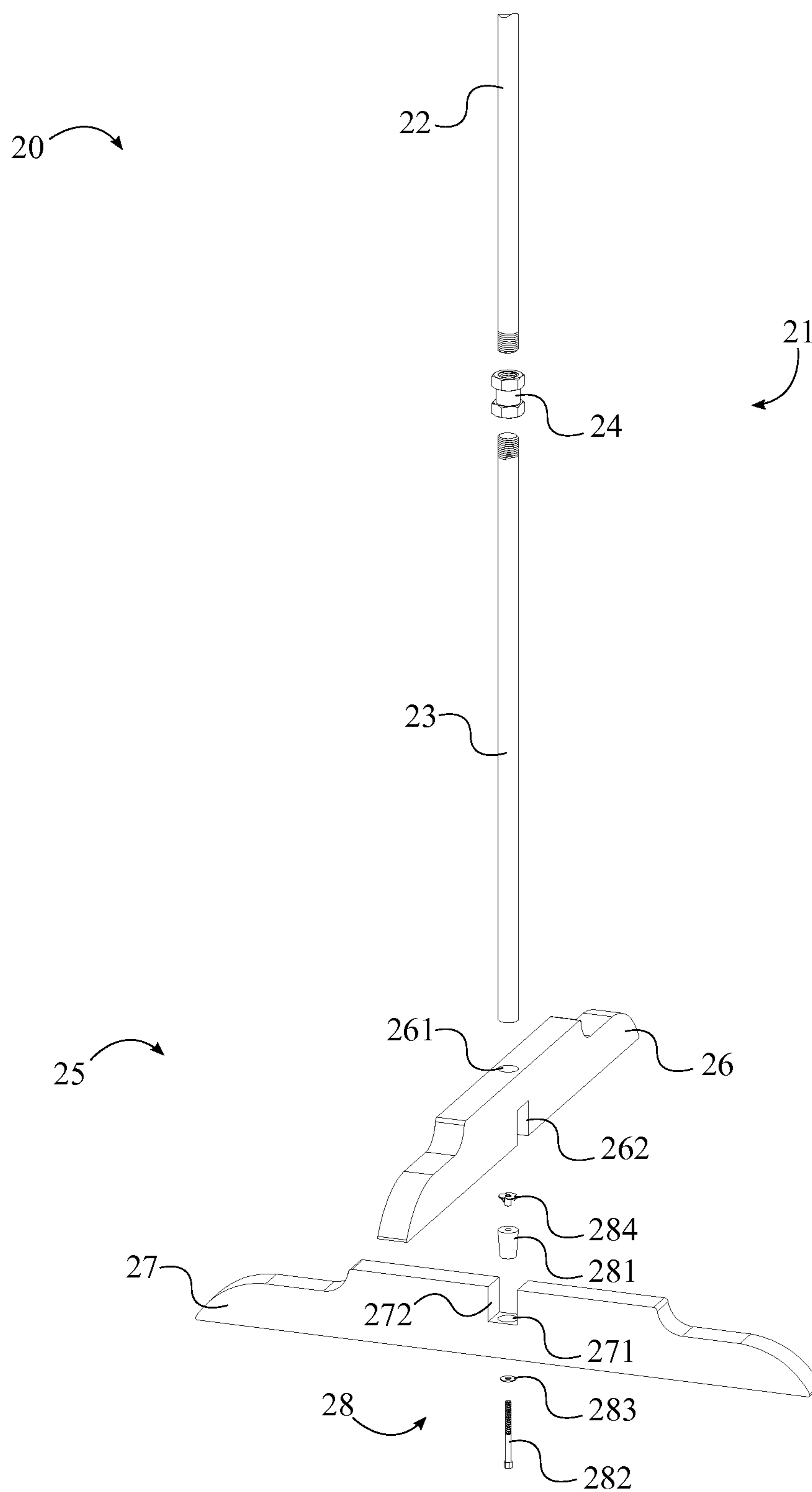


FIG. 4

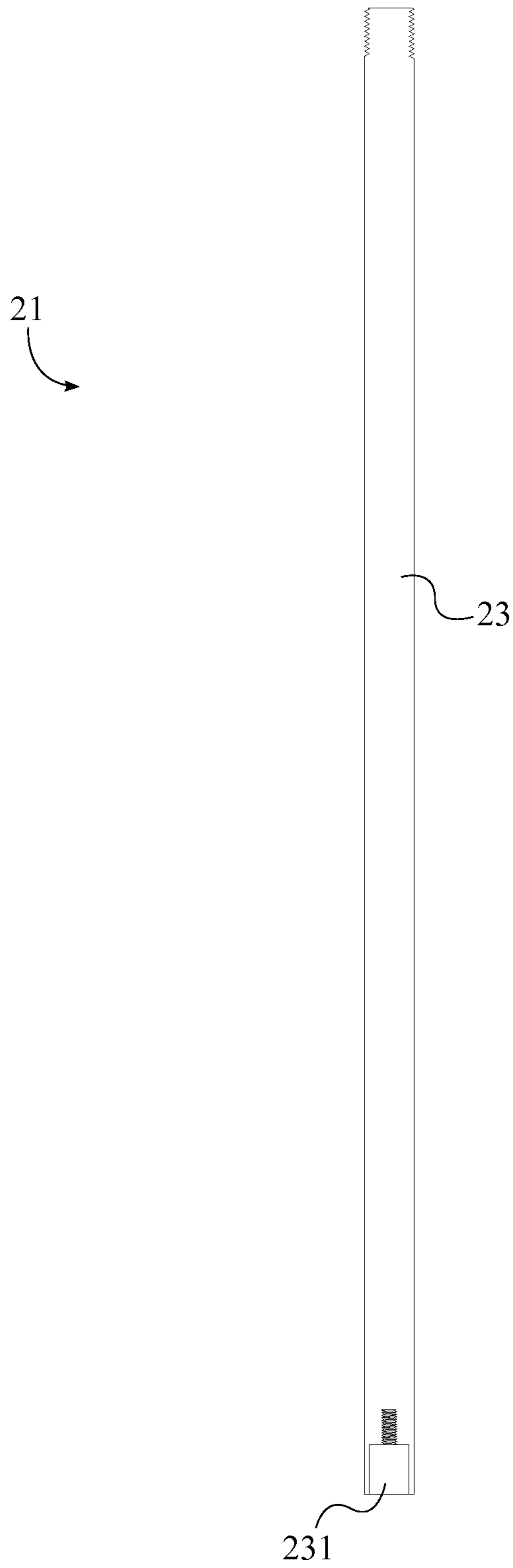


FIG. 5

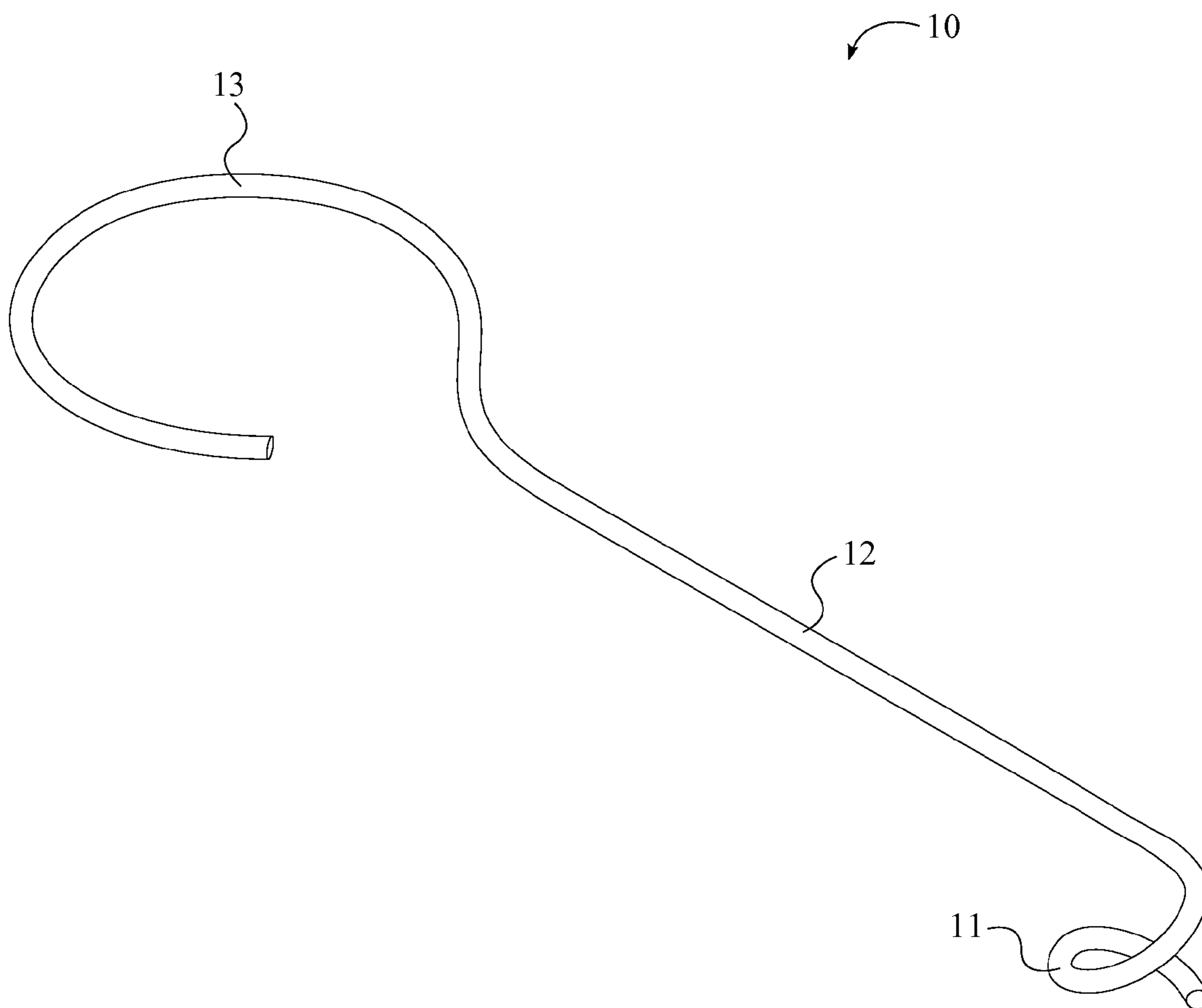


FIG. 6

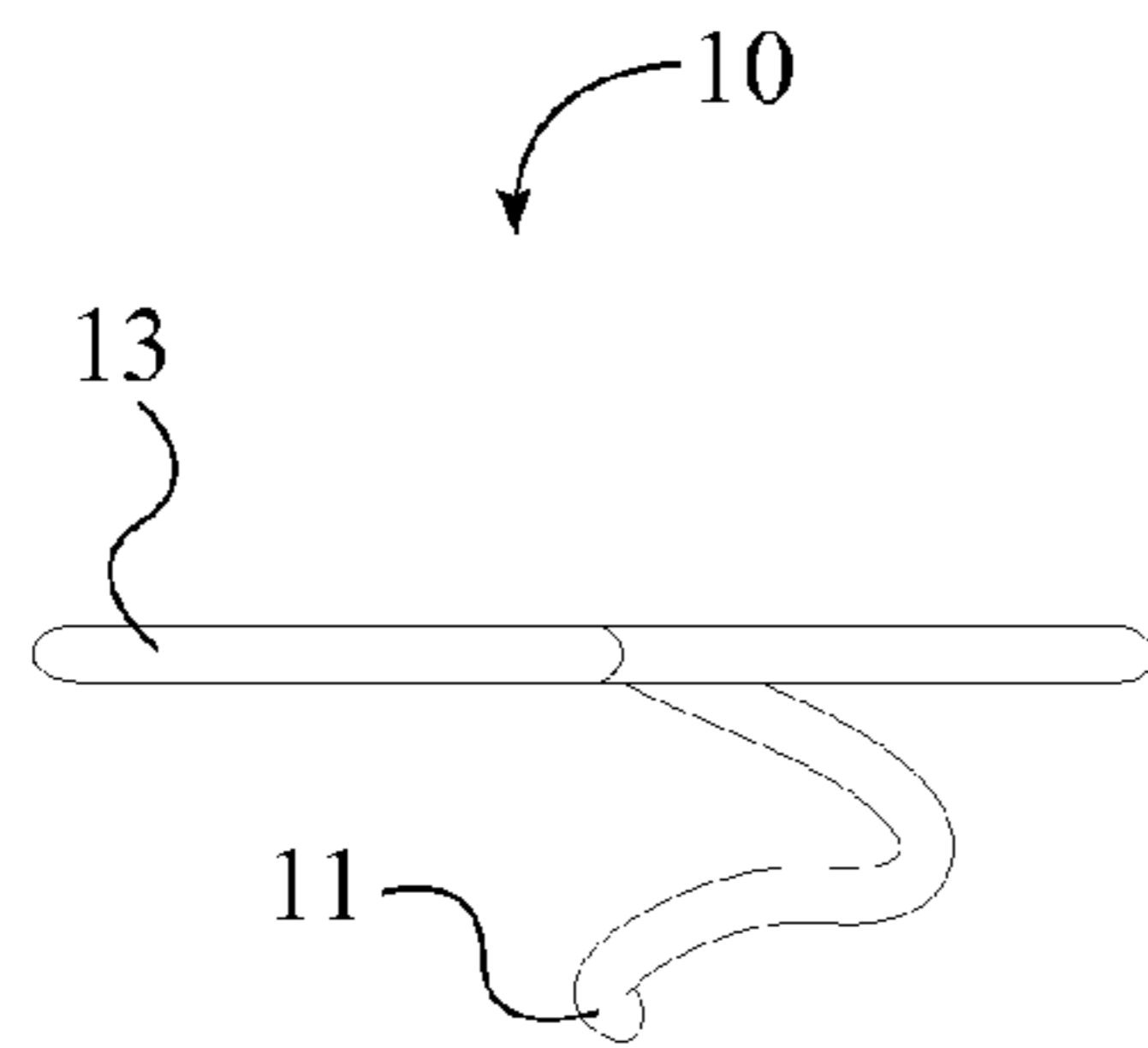


FIG. 7

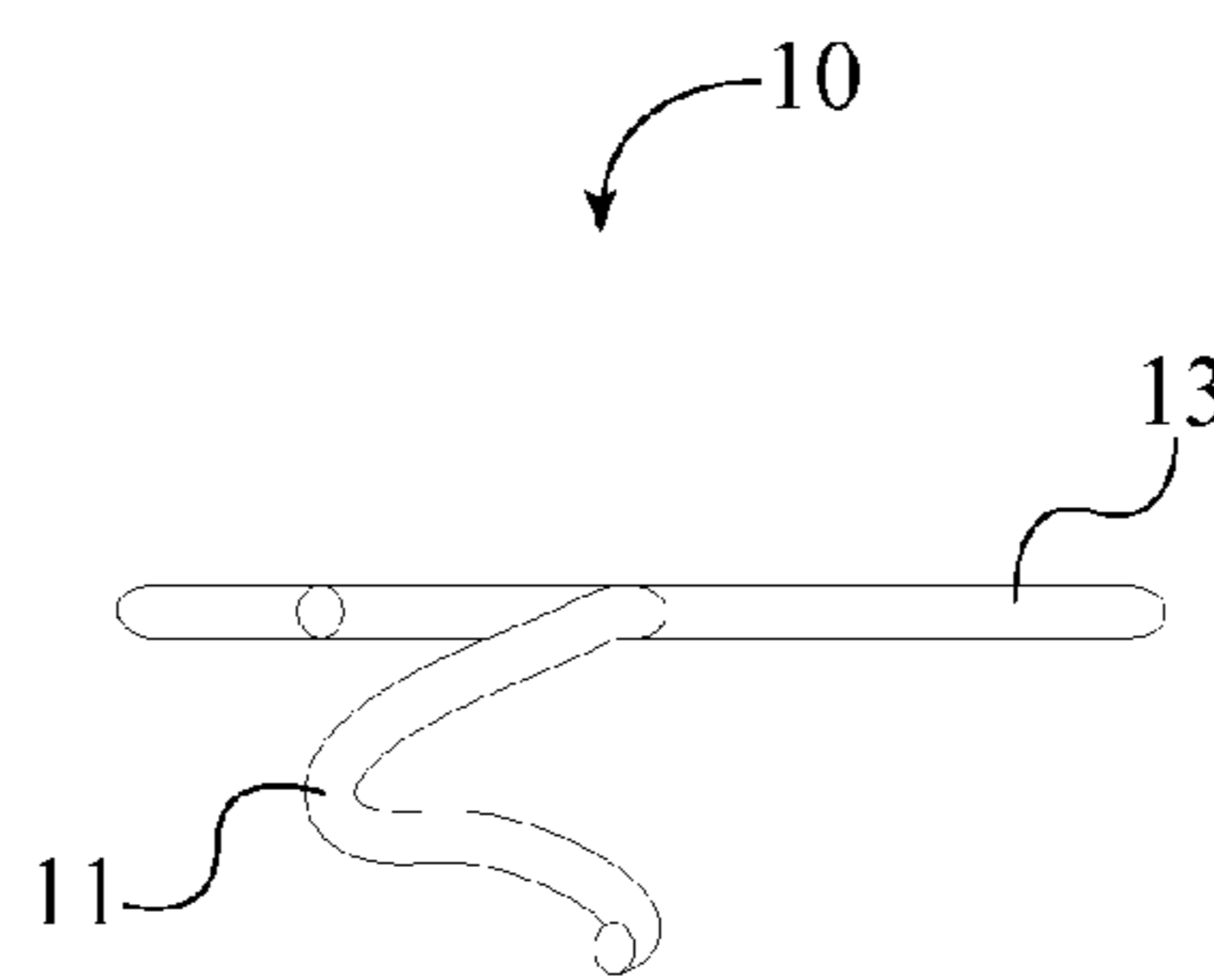


FIG. 8

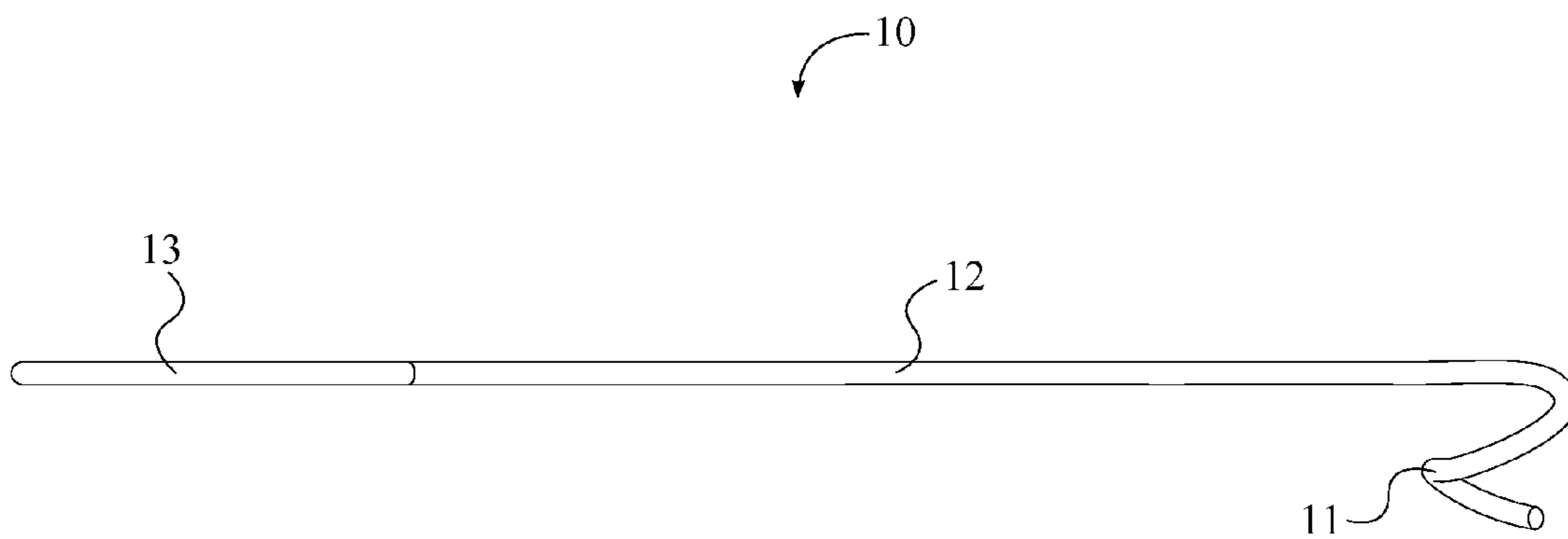


FIG. 9

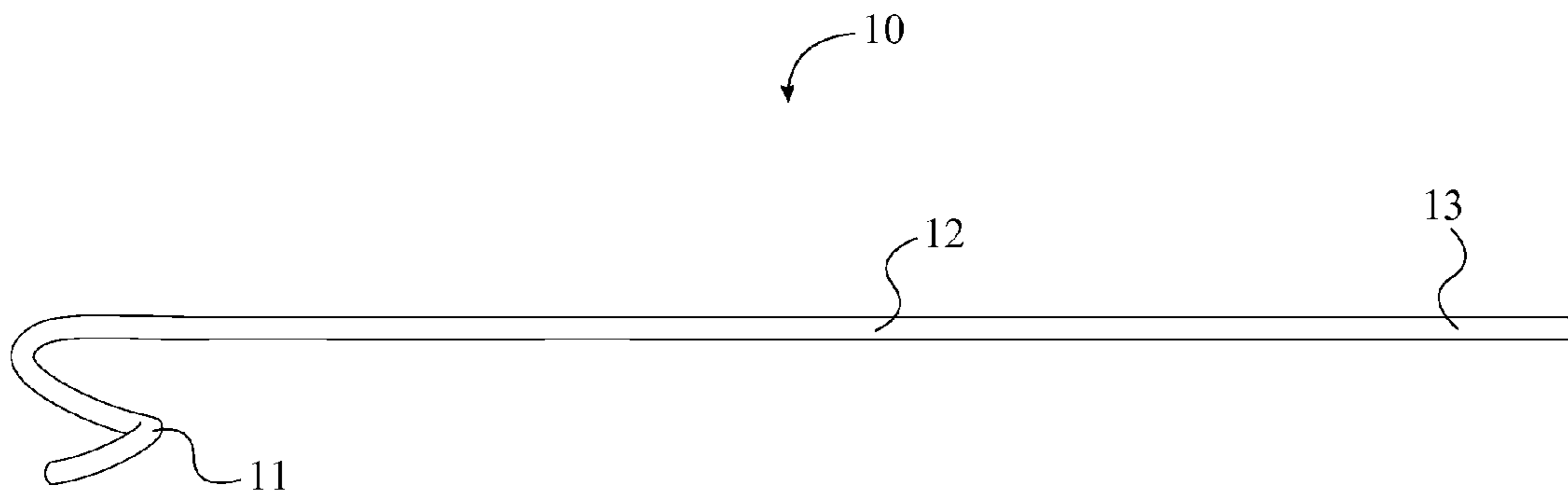


FIG. 10

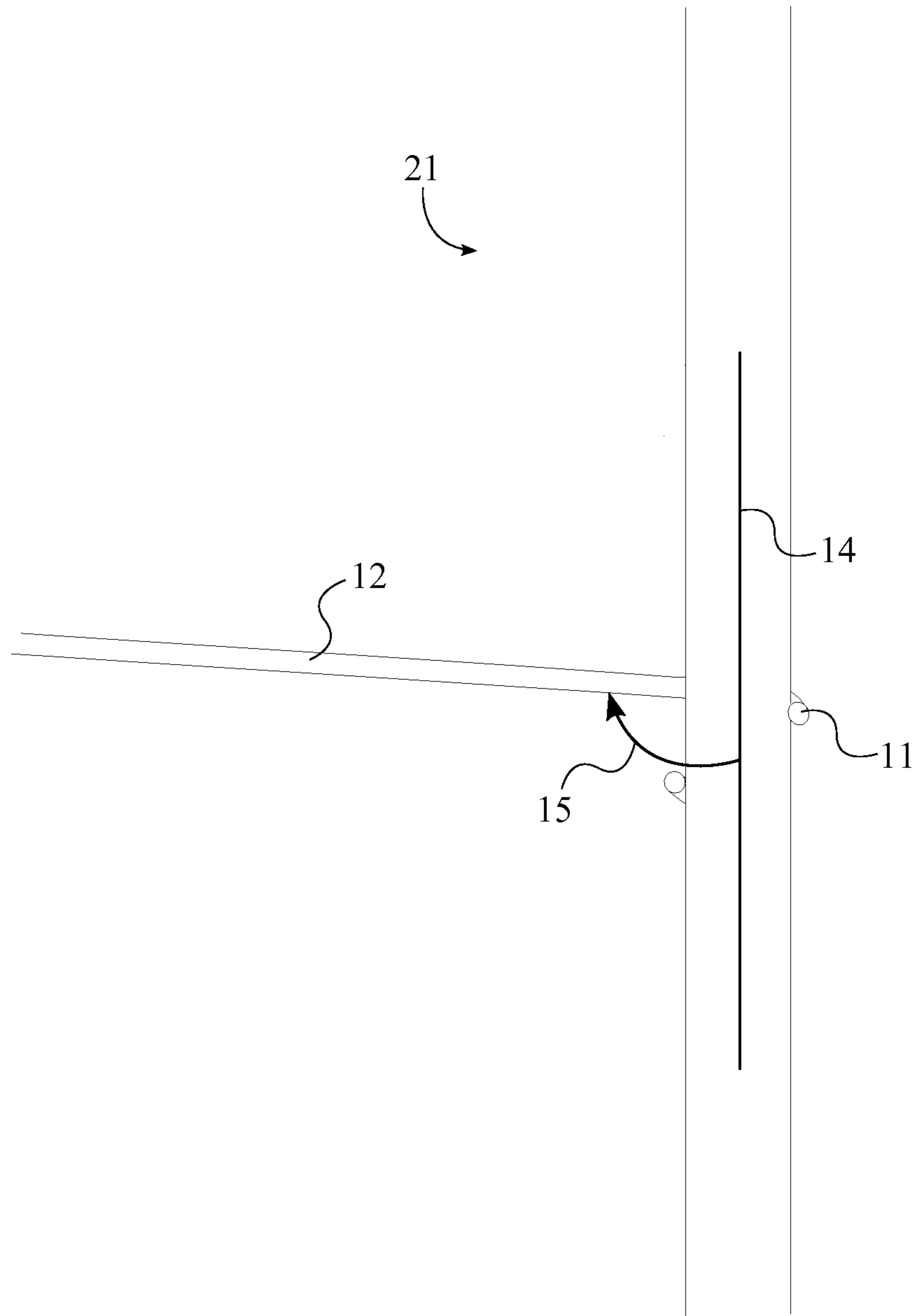


FIG. 11

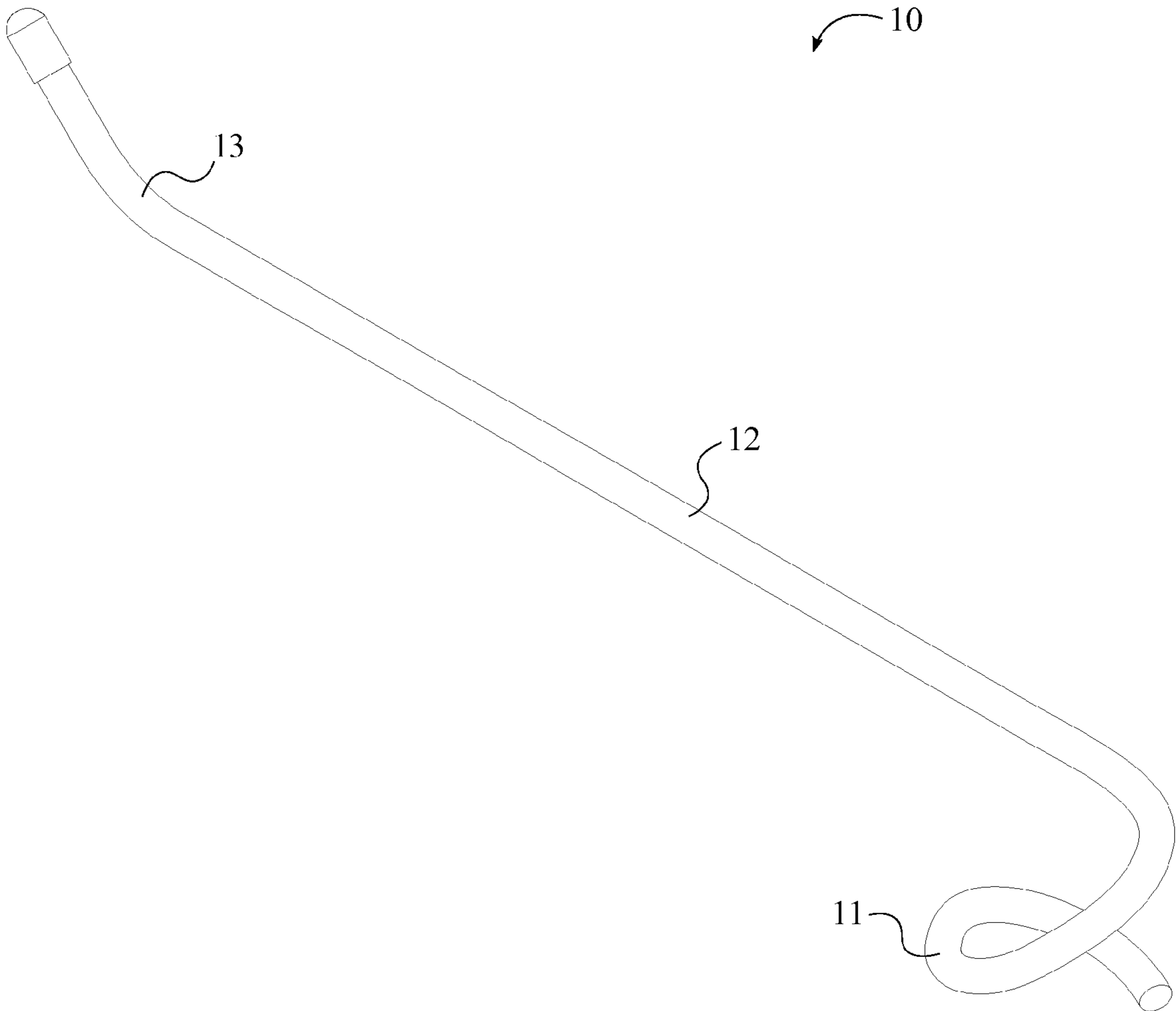


FIG. 12

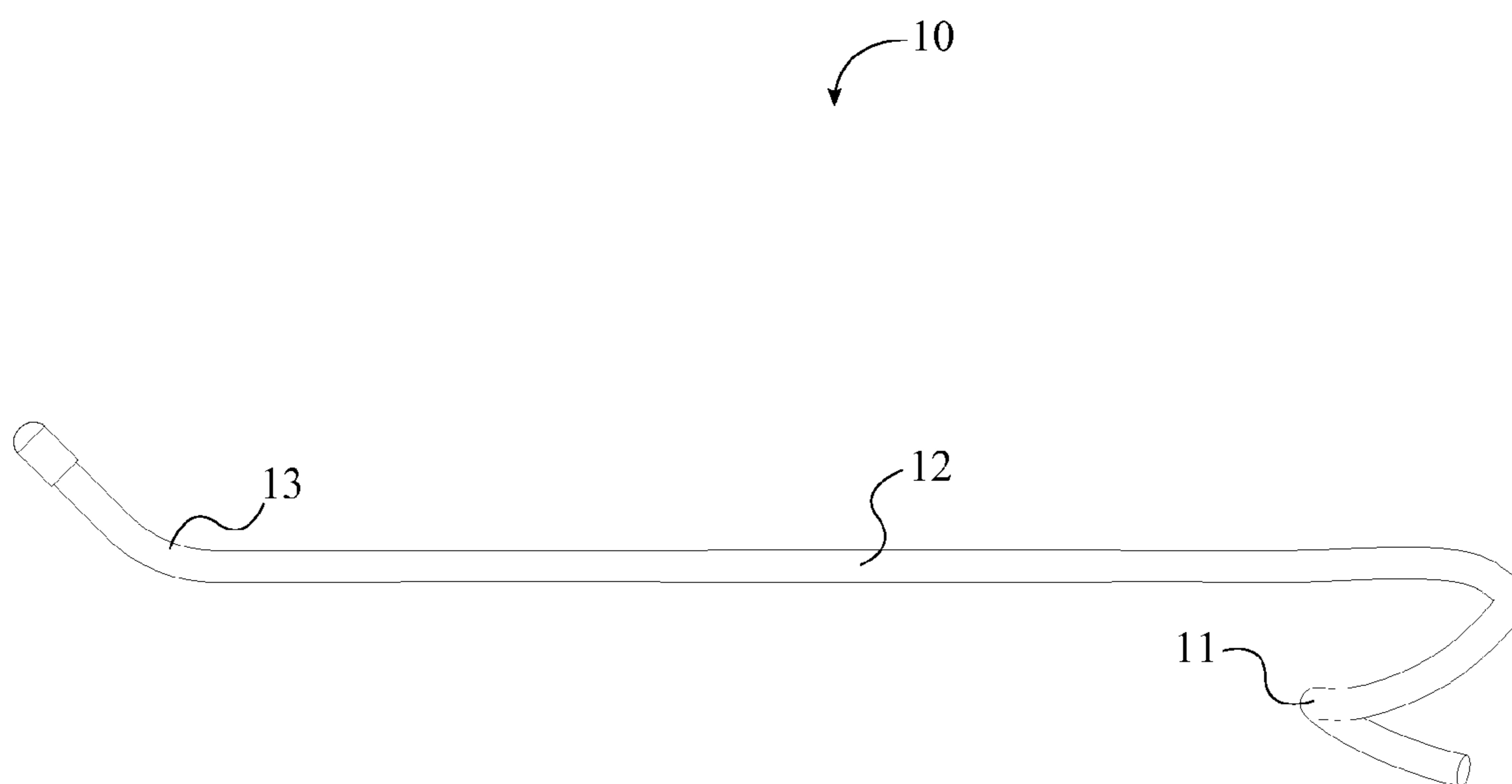


FIG. 13

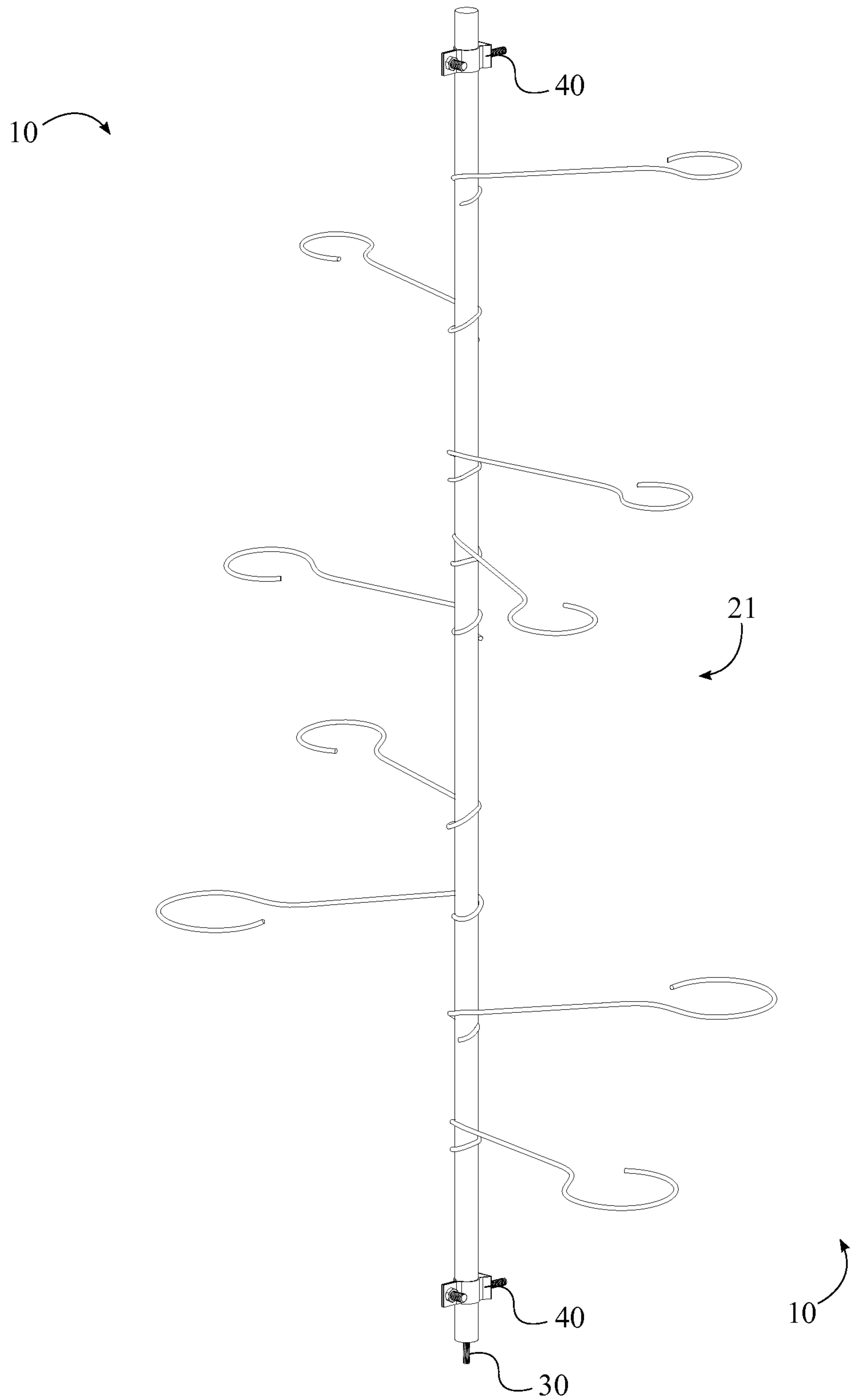


FIG. 14

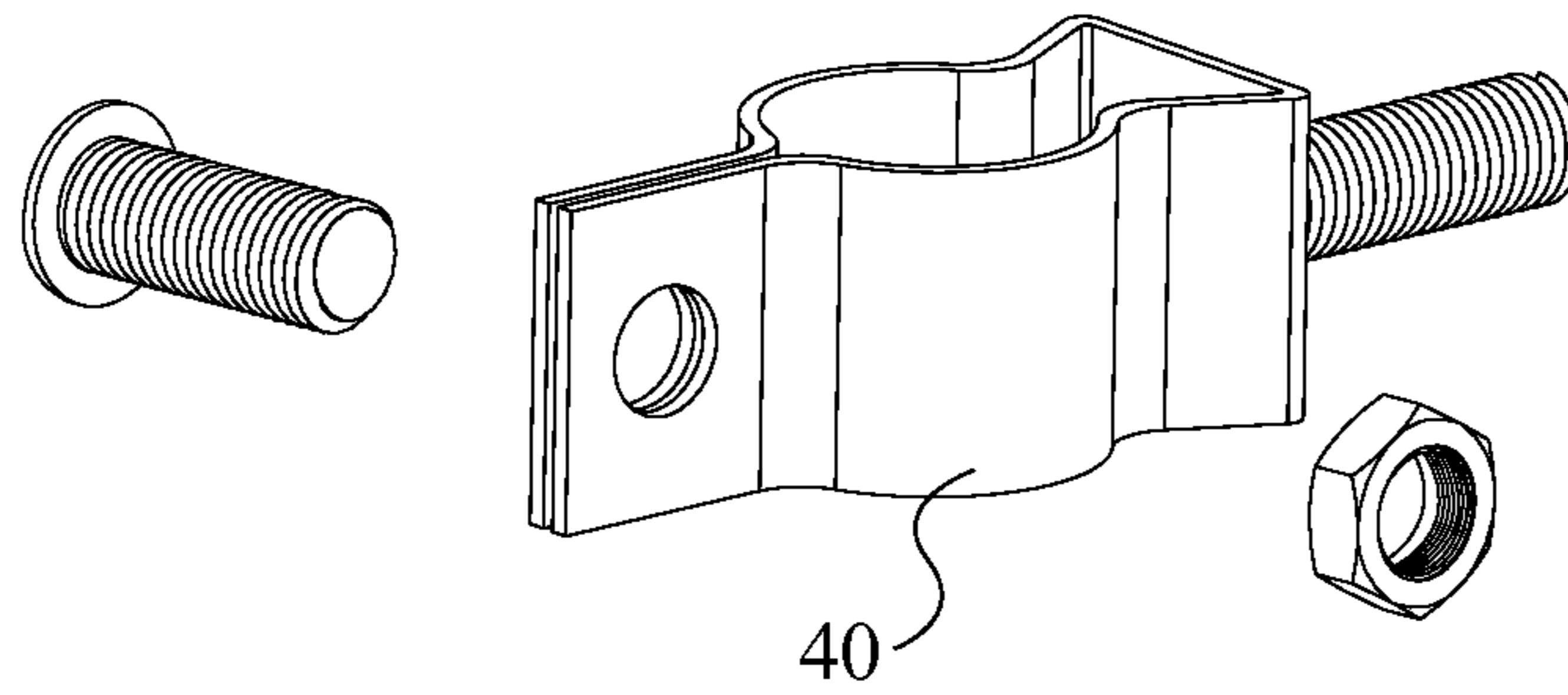


FIG. 15

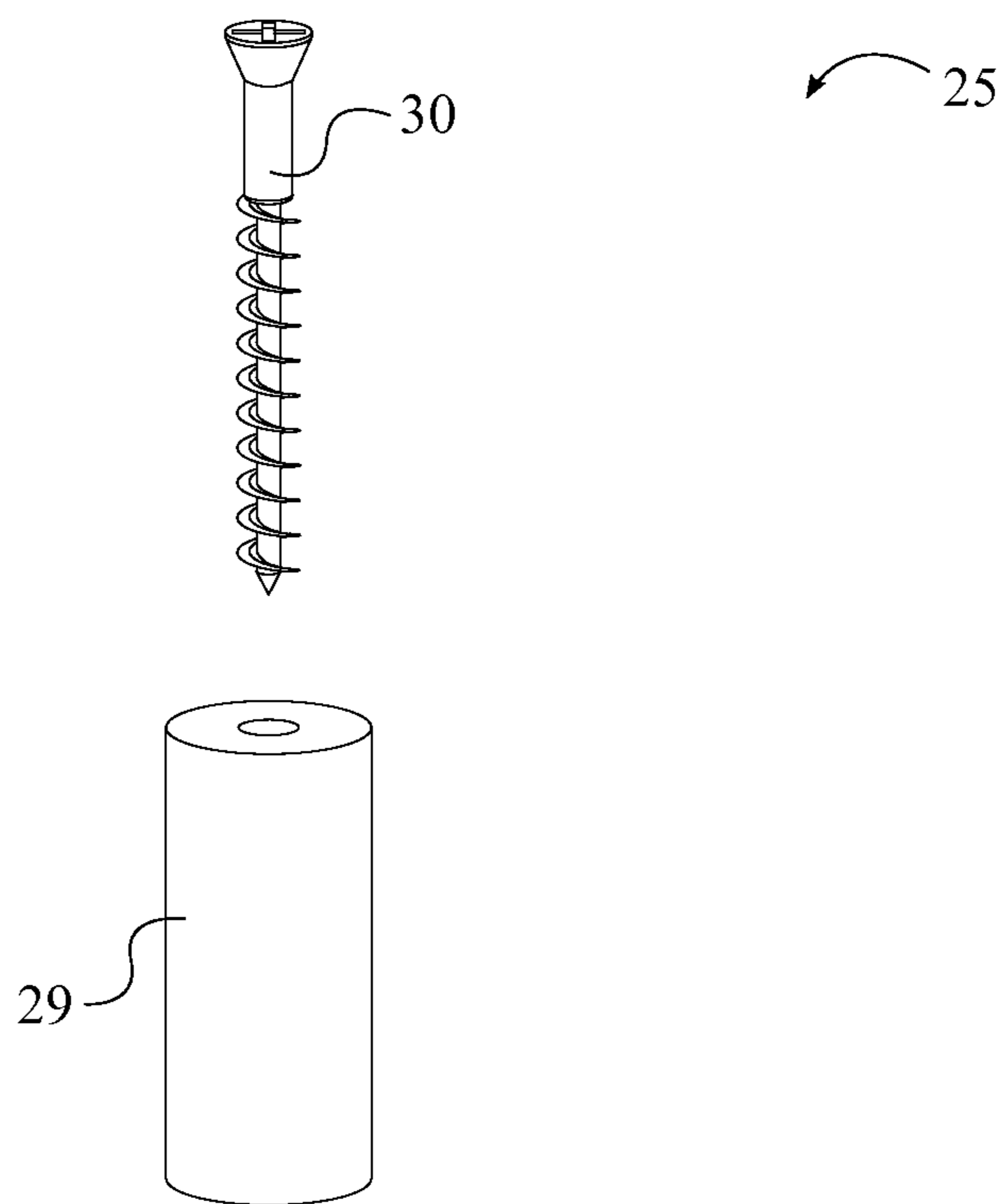


FIG. 16

1**APPARATUS FOR HANGING PLANTS**

The current application claims a priority to the U.S. Provisional Patent application Ser. No. 61/827,908 filed on May 28, 2013.

FIELD OF THE INVENTION

The present invention relates generally to horticulture. More specifically, the present invention provides a system for hanging plants in order to create unique visual displays.

BACKGROUND OF THE INVENTION

Plants are often used to provide decorative displays both indoors and outdoors. Many plants are commonly planted in pots which can then be placed in various locations around the home, office, etc. Oftentimes it is desirable to hang these potted plants in order to create unique decorative displays. Attempts at plant hangers have been made, however, these designs offer limited options in regards to the positioning of the potted plants. Some potted plants are supported above by wires or chains, however, this requires an adequate support beam above to support the weight of the plant. Additionally, plant supports of this nature can be both difficult to install and remove. Other plant hangers allow potted plants to be attached to columns having a square cross section. While these column hangers are more readily installed, these column plant hangers are limited in the number of positions that plants can be placed around the column, as they can only be placed on one of four sides of the column. Neither type of plant hanger provides a user with enough freedom in the way that plants are positioned and ultimately displayed to others.

Therefore it is the object of the present invention to provide an apparatus for hanging plants, which can be used to create 360 degree displays. The present invention has a support structure formed from a support pole and a base. The support pole has a circular cross section, which allows a plurality of plant hangers to extend in any direction when attached to the support pole. The support pole is anchored in place by the support pole. Once the plurality of plant hangers have been set in the desired position along the support pole, potted plants can be placed within the receiving portion of each of the plurality of plant hangers in order to create unique floral displays.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of the apparatus for hanging plants in the preferred embodiment of the present invention.

FIG. 2 is a front elevational view of the apparatus for hanging plants in the preferred embodiment of the present invention.

FIG. 3 is a top elevational view of the apparatus for hanging plants in the preferred embodiment of the present invention.

FIG. 4 is an exploded view of the support structure in the preferred embodiment of the present invention.

FIG. 5 is a front sectional view of the bottom pole in the preferred embodiment of the present invention.

FIG. 6 is a perspective view of one of the at least one plant hanger in the preferred embodiment of the present invention.

FIG. 7 is a front elevational view of the at least one plant hanger in the preferred embodiment of the present invention.

FIG. 8 is a rear elevational view of the at least one plant hanger in the preferred embodiment of the present invention.

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FIG. 9 is a right side elevational view of the at least one plant hanger in the preferred embodiment of the present invention.

FIG. 10 is a left side elevational view of the at least one plant hanger in the preferred embodiment of the present invention.

FIG. 11 is a front sectional view of the at least one plant hanger attached to the support pole, showing the hanger axis and the hanger angle.

FIG. 12 is a perspective view of the at least one plant hanger in an alternative embodiment of the present invention,

FIG. 13 is a right side elevational view thereof.

FIG. 14 is a perspective view of the support pole being alternatively supported.

FIG. 15 is an exploded view of the support pole mount in an alternative embodiment of the present invention.

FIG. 16 is an exploded view of the base in an alternative embodiment of the present invention.

DETAIL DESCRIPTIONS OF THE INVENTION

All illustrations of the drawings are for the purpose of describing selected versions of the present invention and are not intended to limit the scope of the present invention.

The present invention is an apparatus for hanging plants. The present invention comprises a support structure **20** and at least one plant hanger **10**. The support structure **20** comprises a support pole **21** and a base **25**. The base **25** provides an anchor **29** for the support pole **21** and ensures that the present invention does not fall over. Each plant hanger **10** is positioned along the support pole **21** and is used to support a potted plant. Additionally, each plant hanger **10** can be positioned 360 degrees around the support pole **21**, as depicted in FIG. 3. Although the at least one plant hanger **10** is used to support potted plants in the preferred embodiment of the present invention, the at least one plant hanger **10** may be used to support any other objects.

In reference to FIG. 1-2, the base **25** provides a stabilized mount for bracing the support pole **21**. As such, the support pole **21** is adjacently attached to the base **25**, wherein the support pole **21** is extended upright in a vertical position normal to the surface on which the base **25** is resting. The support pole **21** is a generally cylindrical member, which allows each plant hanger **10** to be positioned in any direction when attached to the support pole **21**. In the preferred embodiment of the present invention, the support pole **21** is constructed from metal, while the base **25** is constructed from wood, however, it is possible for any material or combination of materials to be used for either the base **25** or the support pole **21**.

In reference to FIG. 4, the support pole **21** comprises a top pole **22**, a bottom pole **23**, and a coupler **24**. The coupler **24** is a straight tube-like member that is positioned in between the top pole **22** and the bottom pole **23**. The top pole **22** and the bottom pole **23** are adjacently attached to the coupler **24**, wherein the coupler **24** is positioned in between the top pole **22** and the bottom pole **23**. In the preferred embodiment of the present invention, the top pole **22** and the bottom pole **23** are attached to the coupler **24** by means of a threaded interaction, although it is possible for any other means of attachment to be used. This allows the support pole **21** to be readily disassembled in order to provide easier storage, increased portability, etc. In other embodiments of the present invention, it is also possible for the top pole **22** to be directly attached to the bottom pole **23**, or permanently connected to the bottom pole **23**.

The top pole **22** and the bottom pole **23** each have a circular cross section of constant diameter, which allows each plant hanger **10** to be positioned 360 degrees around the support pole **21**. In reference to FIG. **5**, the bottom pole **23** comprises a base connector **231**, through which the bottom pole **23** is adjacently attached to the base **25**. The base connector **231** is positioned on the bottom pole **23** opposite the coupler **24**. The base connector **231** provides a means of attachment between the bottom pole **23** and the base **25**. In the preferred embodiment of the present invention, the base connector **231** is a threaded recess, however, it is possible for the base connector **231** to utilize any other means of connection.

The support pole **21** is held in place by the base **25**, which acts as an anchor **29** to stabilize the present invention on the desired surface. In reference to FIG. **4**, the base **25** comprises a top support leg **26**, a bottom support leg **27**, and a connector assembly **28**. The top support leg **26** comprises a first dado **262** that is cut into the bottom surface of the top support leg **26**, about the midpoint of the top support leg **26**. The bottom support leg **27** comprises a second dado **272** that is cut into the top surface of the bottom support leg **27**, about the midpoint of the bottom support leg **27**. The first dado **262** is interlocked with the second dado **272**, such that the top support leg **26** is adjacently attached to the bottom support leg **27** to form a single foundation structure.

In further reference to FIG. **4**, the bottom support pole **21** is adjacently attached to the base **25**. The top support leg **26** comprises a receiving channel **261** that is positioned adjacent to the first dado **262**. As such, the receiving channel **261** is centrally positioned along the top support leg **26** and traverses through the top support leg **26** from top to bottom. The bottom pole **23** is inserted through the receiving channel **261**. The bottom support leg **27** comprises a connector cavity **271** that is positioned adjacent to the second dado **272**. As such, the connector cavity **271** is centrally positioned along the bottom support pole **21** and traverses through the bottom support leg **27** from top to bottom. The connector cavity **271** provides a recess for which the connector assembly **28** is positioned within.

The connector assembly **28** is the portion of the base **25** to which the support pole **21** is adjacently attached and comprises a stop **281**, a bolt **282**, a washer **283**, and a T-nut **284**. The washer **283** is positioned into the bottom support leg **27** opposite the connector cavity **271**, while the stop **281** is positioned opposite the washer **283**, into the connector cavity **271** of the bottom support leg **27**. The T-nut is positioned into the stop **281**, such that the stop **281** is positioned in between the washer **283** and the tee-nut. The bolt **282** traverses through the washer **283**, the bottom support leg **27**, the stop **281**, and the T-nut **284** from the bottom to the top of the bottom support leg **27**. The bolt **282** is then positioned into the support pole **21**. More specifically, the bottom pole **23** is threaded onto the bolt **282** through the base connector **231** of the bottom pole **23**.

The washer **283** provides a wear pad and spacer between the bottom support leg **27** and the bolt **282**. As the bolt **282** is threaded through the T-nut **284**, the prongs of the T-nut **284** dig into the stop **281**, clamping the stop **281** between the T-nut **284** and the bottom support leg **27**. The stop **281** expands as the bolt **282** is tightened, creating a secure frictional fit within the connector cavity **271**. In the preferred embodiment of the present invention, the stop **281** is constructed from rubber, however, it is possible for other materials to be used. It is possible for the connector assembly **28** to utilize any other means of attachment between the bottom pole **23** and/or the bottom support leg **27**. It is also possible for any other type of base to be used to anchor **29** the support pole **21**.

Each plant hanger **10** is slidably attached to the support pole **21**. Each plant hanger **10** can be constructed in any size as to accommodate variously sized potted plants, and can be designed to provide any length of extension from the support pole **21**. In the preferred embodiment of the present invention, each plant hanger **10** is constructed from aluminum, however, it is possible for any other material or combination of materials to be used. In reference to FIG. **6**, each plant hanger **10** is a bent rod and comprises a receiving portion **13**, a support arm portion **12**, and an attachment portion **11**; the support arm portion **12** being positioned in between the receiving portion **13** and the attachment portion **11**.

In reference to FIG. **7-10**, the attachment portion **11** is helical and has a constant inner diameter, wherein the inner diameter is slightly larger than the diameter of the top pole **22** and the bottom pole **23**, such that the attachment portion **11** may be positioned around the support pole **21**. Additionally, the helical design allows the attachment portion **11** to be rotated 360 degrees around the support pole **21**. Each plant hanger **10** is held in place by a frictional attachment between the attachment portion **11** and the support pole **21** due to the weight of the support arm portion **12**, receiving portion **13**, and the potted plant. The support arm portion **12** supports the weight of the potted plant and creates a separation between the potted plant and the support pole **21**.

In reference to FIG. **11**, a hanger axis **14** traverses concentrically through the attachment portion **11** and is used to define a hanger angle **15**. The hanger angle **15** defines the orientation of the attachment portion **11** in relation to the support arm portion **12**. In the preferred embodiment of the present invention, the hanger angle **15** is approximately 93-95 degrees, such that the support arm portion **12** is angled approximately 3-5 degrees from the horizontal when each plant hanger **10** is attached to the support pole **21** with no potted plant being supported. The hanger angle **15** compensates for the weight of the potted plant, such that the support arm portion **12** of each plant hanger **10** does not sag below a 90 degree angle in relation to the support pole **21** when a potted plant is being supported.

In reference to FIG. **6**, the receiving portion **13** is a curved portion of each plant hanger **10** that also supports the weight of the potted plant and is the portion of each plant hanger **10** to which the potted plant is attached. In the preferred embodiment of the present invention, the receiving portion **13** forms an open loop/hook for supporting a potted plant. The potted plant is positioned through the open loop, wherein the receiving portion **13** is positioned around the pot and securely holds the pot in place. The diameter of the open loop can be varied as to accommodate variously sized pots. It is also possible for the loop to be closed.

In reference to FIG. **12-13**, in an alternative embodiment of the present invention, the receiving portion **13** is curved upwards, away from the supporting arm. Preferably the receiving portion **13** is curved upwards at a 45 degree angle, however, the receiving portion **13** can be curved upwards at any angle. In this embodiment, a potted plant can be hung from a handle or strap that is connected to the pot. The handle or strap is hung around the receiving portion **13** and rests in the curve of the receiving portion **13**, while the section of the receiving portion **13** that extends upwards prevents the handle or strap from sliding off of the receiving portion **13**.

In reference to FIG. **15-16**, in an alternative embodiment of the present invention, the present invention further comprises at least one support pole mount **40**. Additionally, the base **25** comprises an anchor **29** and an anchor screw **30** as opposed to the top support leg **26**, the bottom support leg **27**, and the connector assembly **28**. The anchor **29** is a cylindrical mem-

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ber with a hole drilled through the center from top to bottom. The anchor screw **30** is attached to the anchor **29**, wherein the anchor screw **30** traverses through the hole in the anchor **29** from the top of the anchor **29**. The anchor screw **30** is then threaded into a first surface, such as a deck, concrete, or wood, securing the anchor **29** in place. Preferably, the anchor screw **30** is a spax screw, however, it is possible for any type of threaded member to be used.

In reference to FIG. **14**, the base connector **231** of the bottom pole **23** provides a recess for engaging the bottom pole **23** with the anchor **29**. The support pole **21** is placed over top of the anchor **29**, wherein the anchor **29** is positioned into the base connector **231** of the bottom pole **23**. In this way, the support pole **21** is held in an upright position, normal to the first surface. The at least one support pole mount **40** is positioned around the support pole **21** and is used to anchor **29** the support pole **21** to a second surface that is perpendicular to the first surface, such as a wall. In this way, the support pole mount **40** is connected to the support pole **21** and prevents the support pole **21** from falling over. The support pole mount **40** is attached to the second surface and surrounds the support pole **21**. The at least one support pole mount **40** can be a pipe hanger, clamp, or other similar device that is screwed into or otherwise attached to the second surface.

Preferably, the at least one support pole mount **40** is a pipe hanger. A mount screw traverses through the back of each of the at least one support pole mount **40** and acts to anchor each of the at least one support pole mount **40** to a vertical surface made of wood, stucco, metal, etc. Once the support pole **21** is positioned through each of the at least one support pole mount **40**, a nut and bolt are used to secure each of the at least one support pole mount **40** closed. The bolt traverses through a front portion of the at least one support pole mount **40** and the nut is then attached to the bolt and tightened in order to clamp the two sides of the at least one support pole mount **40** around the support pole **21**.

It is also possible for the support pole **21** to be mounted to a vertical surface using only the at least one support pole mount **40**, wherein at least two support pole mounts are utilized. Each support pole mount **40** is positioned along the vertical surface in a line. The support pole **21** is then positioned through each support pole mount **40**, wherein the support pole **21** is suspended above the ground along the vertical surface.

Although the invention has been explained in relation to its preferred embodiment, it is to be understood that many other possible modifications and variations can be made without departing from the spirit and scope of the invention as hereinafter claimed.

What is claimed is:

1. A plant hanger assembly comprises:

an at least one plant hanger;

a support structure;

each of the at least one plant hanger comprises a receiving portion, a support arm portion, and an attachment portion;

the support structure comprises a support pole and a base;

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the support arm portion being positioned in between the receiving portion and the attachment portion;
 the attachment portion being helical, wherein the attachment portion has a constant diameter;
 a hanger axis traversing concentrically through the attachment portion;
 the hanger axis being positioned at a hanger angle in relation to the support arm portion;
 the receiving portion being curved;
 the support pole being adjacently attached to the base;
 the at least one plant hanger being slidably attached to the support pole;
 the attachment portion being positioned around the support pole;
 the base comprises a bottom support leg and a connector assembly;
 the connector assembly being positioned into the bottom support leg;
 the support pole being adjacently attached to the connector assembly;
 the connector assembly comprises a stop, a bolt, a washer, and a T-nut;
 the washer being positioned into the bottom support leg;
 the stop being positioned into the bottom support leg opposite the washer;
 the T-nut being positioned into the stop; and
 the bolt traversing through the washer, the bottom support leg, the stop, and the T-nut.

2. The plant hanger assembly as claimed in claim **1** comprises:

the support pole comprises a top pole, a bottom pole, and a coupler;

the top pole and the bottom pole being adjacently attached to the coupler;

the coupler being positioned in between the top pole and the bottom pole; and

the bottom pole being adjacently attached to the base.

3. The plant hanger assembly as claimed in claim **1** comprises:

the base comprises a top support leg and a bottom support leg;

the top support leg being adjacently attached to the bottom support leg; and

the support pole traversing through the top support leg.

4. The plant hanger assembly as claimed in claim **3** comprises:

the top support leg comprises a first dado;

the bottom support leg comprises a second dado; and

the first dado being interlocked with the second dado.

5. The plant hanger assembly as claimed in claim **1** comprises:

the connector assembly comprises a stop and a bolt;

the stop being positioned into the bottom support leg; and

the bolt traversing through the bottom support leg and the stop, and into the support pole.

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